

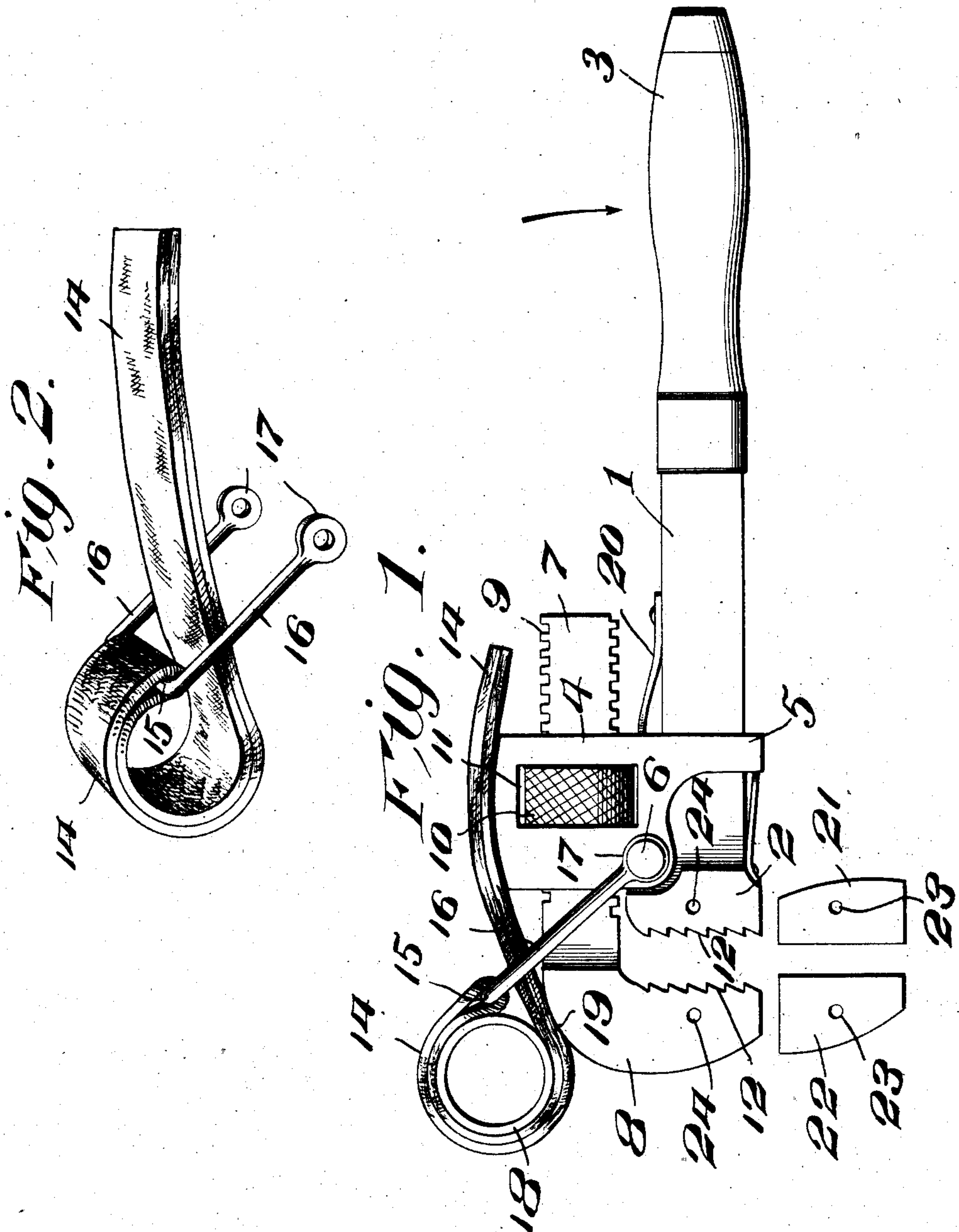
No. 879,259.

T. J. HAND.
WRENCH.

PATENTED FEB. 18, 1908.

APPLICATION FILED APR. 13, 1907.

2 SHEETS—SHEET 1.



WITNESSES:

Thos W Riley
W J Fitzgerald

INVENTOR

T. J. Hand

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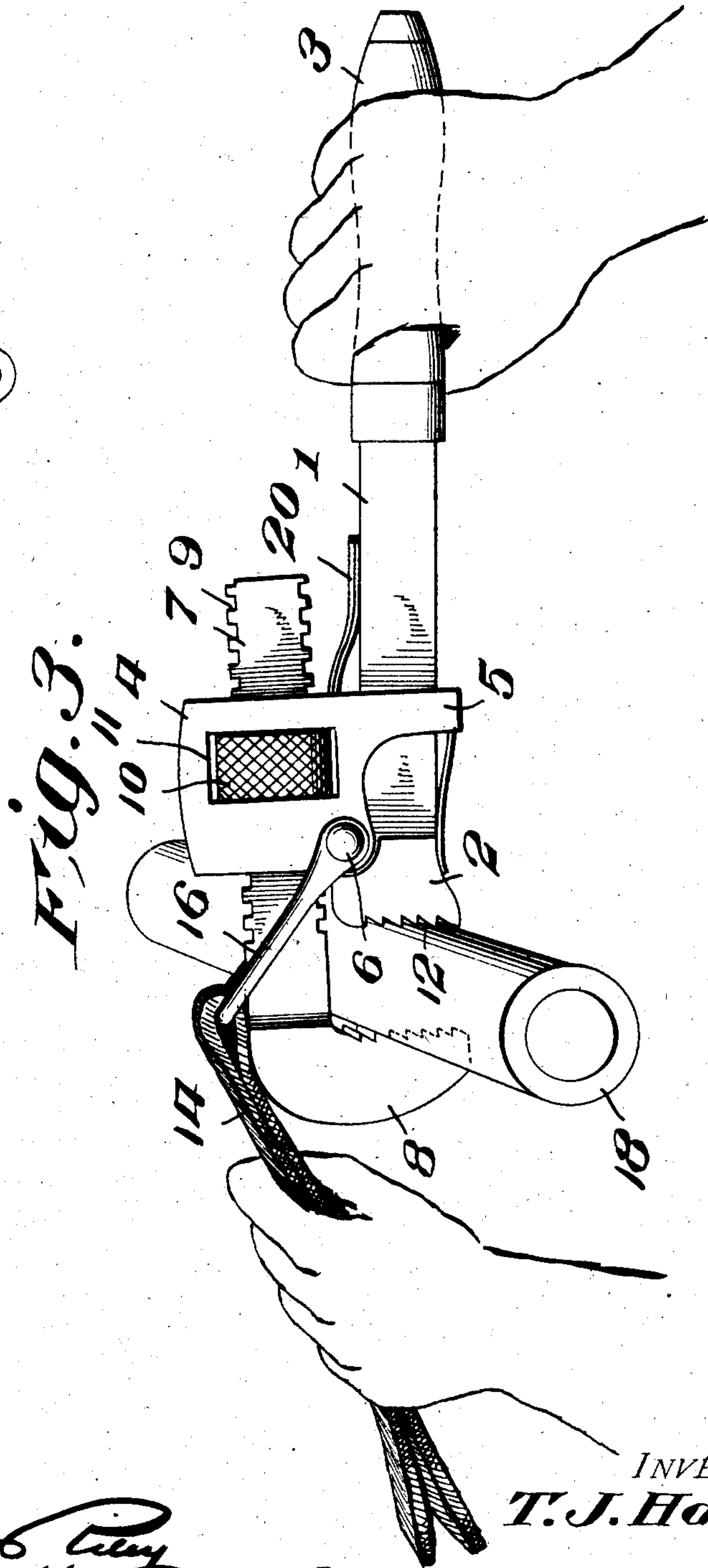
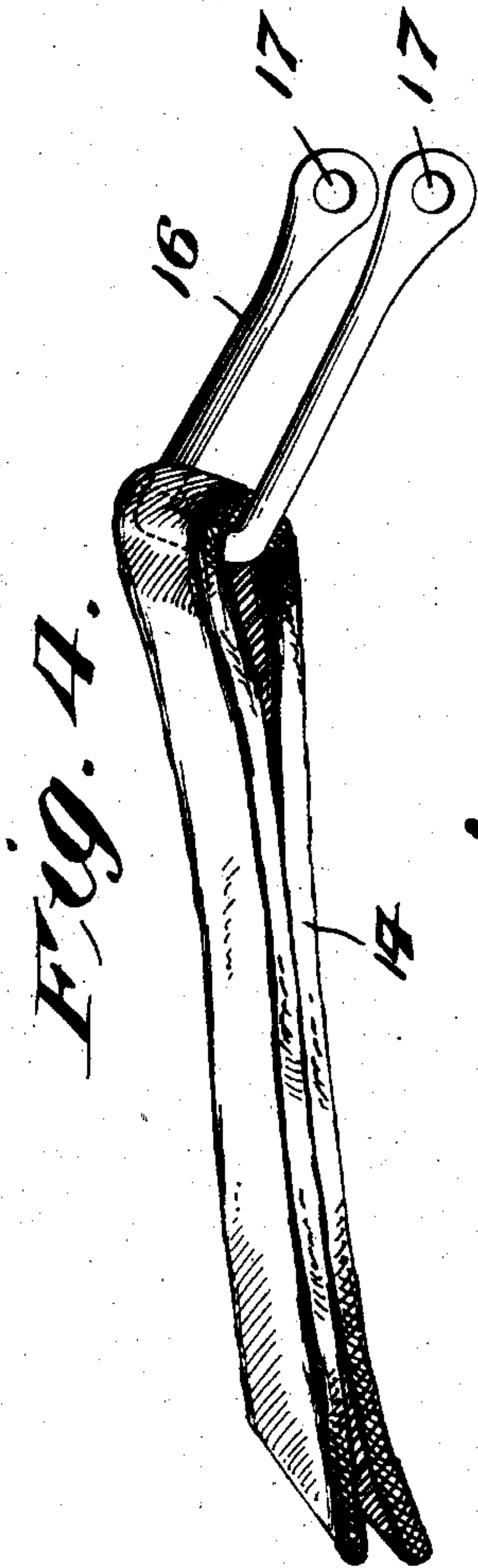
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WITNESSES:

Thomas B. Riley
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UNITED STATES PATENT OFFICE.

THOMAS J. HAND, OF NEW YORK, N. Y.

WRENCH.

No. 879,259.

Specification of Letters Patent.

Patented Feb. 18, 1908.

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To all whom it may concern:

Be it known that I, THOMAS J. HAND, a citizen of the United States, residing at New York city, in the county of New York and State of New York, have invented certain new and useful Improvements in Wrenches; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to new and useful improvements in gripping and turning devices and more particularly to that class adapted to be used for turning pipes or like objects having nicked or polished surfaces, and my object is to provide means for securing the device to any suitable form of lever having a cam head at one end thereof to hold the device in engagement with the pipe, and in this connection I have shown the device as secured to the usual form of pipe wrench and when secured to a wrench the device may be used to direct the jaws of the wrench firmly in engagement with a pipe or other object to be turned.

Other objects and advantages will be hereinafter referred to and more particularly pointed out in the claims.

In the accompanying drawings which are made a part of this application, Figure 1 is a side elevation of a wrench with my improved gripping attachment secured thereto and applied to use. Fig. 2 is a perspective view of the attachment removed from the wrench. Fig. 3 is a perspective view showing the manner in which the jaws of the wrench are positively engaged with the pipe by employing my improved attachment, and, Fig. 4 is a perspective view of the attachment removed from the wrench and in the position to be employed for directing the jaws of the wrench into engagement with the pipe.

Referring to the drawings in which similar reference numerals designate corresponding parts throughout the several views, 1 indicates the fixed shank of a wrench to one end of which is secured a fixed jaw 2 while the opposite end thereof is provided with a handle 3.

That end of the shank 1 having the jaw 2 thereon is provided with a yielding keeper 4, one portion of which is provided with a loop 5 which extends around the shank 1 and the keeper is pivotally secured to the shank by directing a bolt 6 through the shank and

portions of the keeper, said bolt being directed through that edge of the keeper opposite the loop 5 so that the keeper may have a rocking movement on the fixed shank.

The keeper 4 is adapted to receive a movable shank 7 which is provided at its outer end with a jaw 8 and in order to readily move the jaw 8 outwards or from the jaw 2, the shank 7 is provided with threads 9 with which is adapted to engage an interiorly threaded bur 10 and in order to hold the bur from longitudinal movement, the keeper 4 is provided with a slot 11 in which the bur 10 is seated and it will be readily seen that by rotating the bur, the shank 7 will be moved longitudinally through a cavity in the keeper 4.

The meeting faces of the jaws 2 and 8 are provided with a plurality of teeth 12 which are of the usual form employed in connection with pipe wrenches and are adapted to engage the surface of the pipe or other object and turn the same when leverage is imparted to the wrench and it has been found that the teeth will enter the surface of the pipe and mar the same, and when the wrench is used in connection with pipes having polished surfaces the pleasing effects of the surface is destroyed.

It has been rendered necessary therefore to provide means for gripping and turning the object having the polished surface without employing the teeth of the wrench and to this end I provide a pliable means for engaging the pipe to turn the same without employing the teeth on the wrench and in this instance the wrench is employed as a lever.

The gripping device consists of a flexible strap 14 which is preferably doubled upon itself and the parallel sections of the strap thus folded passed to each side of the connecting bar 15 of a clevis 16 thereby fixing the ends of the two sections of the strap to the clevis.

The lower ends of the arms of the clevis are provided with eyes 17 through which the bolt 6 extends and by which means the clevis is pivotally mounted upon the wrench.

In applying this device to use, the free end of the strap is directed around a pipe 18, and between the connecting bar 15 and the jaw 8 of the wrench and in this instance the jaw is adjusted outwardly a sufficient distance to prevent the bar of the clevis from passing over the jaw and the fixed end of the jaw is curved or beveled as shown at 19 thereby

forming a cam surface so that when the strap is properly directed around the pipe and the wrench employed as a lever the cammed end of the jaw will impinge the strap between the
 5 jaw and pipe and prevent the same from slipping and at the same time drawing the strap tightly around the pipe thereby causing the pipe to turn.

It will be clearly understood of course that
 10 any preferred form of lever having a cammed end can be employed in connection with my improved gripping device although I prefer to attach the same to a wrench as it is an article which every plumber possesses and as
 15 my improved device can be quickly secured to a wrench the necessity of carrying an extra lever is obviated.

It has also been found that my improved device can be employed for forcing the teeth
 20 into engagement with the pipe when the wrench proper is employed for turning the pipe, as in a wrench of this class, a tension spring 20 is fixed to the shank 1 and the free end thereof directed into engagement with the
 25 keeper, said spring being depended upon to hold the jaw in close contact with the surface of the pipe so that the teeth will engage the pipe, but in practice it has been found that the tension of the spring is not always sufficient to
 30 positively engage the teeth with the pipe, which will result in the wrench turning around the pipe and marring the surface thereof and therefore to positively hold the teeth of the jaws in engagement with the
 35 pipe and prevent the same from slipping, the strap, instead of being looped around the pipe is extended over the end of the jaw 8 as shown in Fig. 3 of the drawing so that when a pull is made upon the handle and
 40 strap simultaneously both jaws of the wrench are directed into positive engagement with the pipe. When the wrench has been swung its full stroke the pressure upon the strap is released which will allow the keeper to yield
 45 upon its pivot point and sufficiently release the teeth from the pipe as to allow the wrench to be inversely rotated and a new purchase made upon the pipe.

In Fig. 1 of the drawing I have shown a
 50 pair of clips 21 and 22 which are adapted to extend over the jaws 2 and 8 respectively and cover the teeth thereon so that the wrench may be employed in connection with objects having flat surfaces said clips being
 55 secured to the jaws by passing any suitable form of pin through registering openings 23 and 24 in the clips and jaws respectively.

It will now be seen that I have provided a
 60 gaging and turning pipes so that the sur-

faces thereof will not be marred and it will also be seen that the device may be employed for positively engaging the jaws of a wrench with an object to be turned and it will be seen that the attachment may be
 65 employed in connection with a wrench or any suitable form of lever and while I have shown a strap for gripping the object to be turned it will be clearly understood that any form or flexible device may be employed
 70 with equal success.

What I claim is:

1. In a gripping device of the class described, the combination with a wrench having a yielding keeper and a movable jaw
 75 carried by said keeper said jaw having a cammed end; of a clevis pivotally secured to said yielding keeper, a flexible device fixed at one end to said clevis, and having its opposite end inserted through the clevis and
 80 over the cammed end of said jaw, whereby when said flexible device is surrounding an article and leverage applied to the wrench, said cammed end of the jaw will bind the flexible device on the object and cause said
 85 object to rotate.

2. In a device of the class described, the combination with a wrench, a yielding keeper on said wrench, a bolt adapted to secure said keeper to the wrench and a mov-
 90 able jaw carried by said keeper said jaw having a cammed end; of a clevis pivotally secured to said bolt, a flexible device fixed at one end to the clevis, the opposite end thereof being adapted to pass through the
 95 clevis when surrounding an object, whereby when leverage is applied to the wrench, the cam will clamp the flexible device around and over the cammed end and the object and cause said object to turn.
 100

3. In a device of the class described, the combination with a wrench having a yielding keeper, a bolt to secure said keeper to the wrench and a movable jaw carried by said
 105 keeper said jaw having a cammed end; of a clevis pivotally mounted on said bolt and adapted to extend over the cammed end of said movable jaw and a flexible device secured to said clevis adapted to be disposed into engagement with the cammed end of the
 110 jaw, whereby said jaw will be positively engaged with an object.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

THOMAS J. HAND.

Witnesses:

EUGENE W. MYERS,
 PETER KUHN.